

WHAT IS CLAIMED IS:

1. An automatic ticket checking apparatus comprising:

5 a first conveying mechanism for conveying a magnetic ticket in a first direction along a first passage way;

first ticket checking means for reading information recorded on a magnetic ticket and a  
10 wireless ticket and judging whether or not the information read by the first checking means is valid;

a second conveying mechanism arranged opposite side of the first conveying mechanism in the apparatus for conveying a magnetic ticket in a second direction  
15 opposing to the first direction along the first passageway and along a second passage way in parrallele with the first passage way; and

second ticket checking means for reading information recorded on a magnetic ticket and a  
20 wireless ticket and judging whether or not the information read by the second checking means is valid.

2. An automatic ticket checking apparatus according to claim 1, wherein

25 the first conveying mechanism conveys the magnetic ticket in the first direction from one end to

about a center of the apparatus along the passage way  
and ejects the magnetic ticket at almost the center,  
and

the second conveying mechanism conveys the  
5 magnetic ticket in the second direction from the other  
end to about a center of the apparatus along the  
passage way and ejects the magnetic ticket at almost  
the center.

10 3. An automatic ticket checking apparatus  
according to claim 2, wherein

the first conveying mechanism is provided at the  
first passage way side of the apparatus, and

the second conveying mechanism is provided at the  
15 second passage way side of the apparatus.

4. An automatic ticket checking apparatus  
according to claim 3, further comprising:

first receiving means provided at one end of the  
20 apparatus for receiving a magnetic ticket;

first eject means provided at about the center of  
the apparatus for ejecting the magnetic ticket  
conveyed by the first conveying mechanism to about the  
center of the apparatus;

25 first reading means provided near one end of the  
apparatus for reading information recorded on a

wireless ticket;

second receiving means provided near the other end of the apparatus for receiving a magnetic ticket;

second eject means provided at about a center of  
5 the apparatus for ejecting the magnetic ticket conveyed by the second conveying mechanism to about the center of the apparatus; and

second reading means provided near the other end of the apparatus for reading the information recorded  
10 on a wireless ticket.

5. An automatic ticket checking apparatus according to claim 2, further comprising:

a first cover configured to cover the first  
15 conveying mechanism from its one end to about the center along the passage way; and

a second cover, which is separated from the first cover, configured to cover the second conveying mechanism from its other end to about the center along  
20 the passage way.

6. An automatic ticket checking apparatus according to claim 5, wherein

the first cover is provided to open/close freely  
25 without obstructing a user to pass the second passage way in the second direction, and

the second cover is provided to open/close freely without obstructing a user to pass the first passage way in the first direction.

5        7. An automatic ticket checking apparatus according to claim 4, wherein

the first receiving means is provided at one end of the apparatus which is one-sided to the first passage side from the center line along the first  
10 passage way on the apparatus and

the second receiving means is provided at the other end of the apparatus which is one-sided to the second passage side from the center line along the first passage way on the apparatus.

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8. An automatic ticket checking apparatus according to claim 1, further comprising:

collecting means for collecting the magnetic tickets conveyed by the first and second conveying  
20 mechanism collectively.

9. An automatic ticket checking apparatus according to claim 8, wherein

the collecting means is configured to be able to  
25 take out the collected magnetic tickets from either the first or the second passag side.

10. An automatic ticket checking apparatus  
according to claim 9, further comprising:

5 first holding means for temporarily holding the  
magnetic tickets to be collected in the collecting  
means out of the magnetic tickets conveyed by the  
first conveying mechanism while the magnetic tickets  
accommodated in the collecting means are taken out of  
the second passage side; and  
10 second holding means for temporarily holding the  
magnetic tickets to be collected in the collecting  
means out of the magnetic ticket conveyed by the  
second conveying mechanism while the magnetic tickets  
accommodated in the collecting means are taken out of  
15 the first passage side.

11. An automatic ticket checking apparatus  
according to claim 10, further comprising:

20 first prohibiting means for prohibiting the  
acceptance of magnetic tickets when the magnetic  
ticket holding capacity of the first holding means  
reaches the saturated state; and

second prohibiting means for prohibiting the  
acceptance of magnetic tickets when the magnetic  
25 ticket holding capacity of the second holding means  
reaches the saturated state.

12. An automatic ticket checking apparatus  
according to claim 5, further comprising:

control means for controlling the first and  
5 second ticket checking means to be maintained  
collectively; and

switching means for switching a maintenance  
object by the control means to the first ticket  
checking means when the first cover is opened, and  
10 switching a maintenance object by the control means  
to the second ticket checking means when the second  
cover is opened.

13. Automatic ticket checking apparatus according  
15 to claim 12, further comprising:

designating means for accepting the selection and  
designation of a maintenance object by the control  
means.

20 14. An automatic ticket checking means according  
to claim 1, further comprising:

common display means for displaying a guidance  
relative to the process by the first and second ticket  
checking means.

25

15. An automatic ticket checking apparatus

according to claim 14, wherein the common display means includes:

a first display to display a guidance relative to the process by the first ticket checking means; and

5 a second display to display a guidance relative to the process by the second ticket checking means;

wherein the first display is given with directivity so that the guidance displayed on the first display is not visible from a user who is going  
10 in the second direction, and the second display is given with directivity so that the guidance displayed on the second display is not visible from a user who is going in the first direction.

15 16. An automatic ticket checking apparatus according to claim 15, further comprising:

a first shading plate arranged at the first display so as to give prescribed directivity to the first display; and

20 a second shading plate arranged at the second display so as to give prescribed directivity to the second display.

17. An automatic ticket checking apparatus  
25 comprising:

first processing means for processing a magnetic

ticket restricted to one size;

second processing means for processing a wireless ticket in kinds differing from the magnetic tickets;

first ticket checking means for executing the  
5 ticket checking process based on the process by the first processing means; and

second ticket checking means for executing the ticket checking process based on the process by the second processing means.

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18. An automatic ticket checking apparatus according to claim 17, wherein the wireless ticket stores a long-distance ticket information which is approved to take a train for a long distance exceeding  
15 a prescribed distance.

19. An automatic ticket checking apparatus according to claim 17, further comprising:

setup means for selecting one of a first mode for  
20 executing the first ticket checking means, a second mode for executing the second ticket checking means and a third mode for executing the first and second ticket checking modes jointly.

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20. An automatic ticket checking apparatus according to claim 19, further comprising:



guidance display means for displaying the mode selected by the setting means to users.

21. An automatic ticket checking apparatus  
5 according to claim 17, further comprising:

fare adjustment requesting means for requesting the fare adjustment when a shortage of fare is known in the ticket checking process by the first and second processing means;

10 fare adjustment means for makeing the fare adjustment for the fare shortage in response to the request for the fare adjustment by the fare adjustment requesting means when the data of amount of money is obtained at least one of the first and second  
15 processing means; and

third ticket checking means for executing the ticket checking process based on the result of fare adjustment by the fare adjustment means.

20 22. An automatic ticket checking apparatus according to claim 17, further comprising:

fare adjustment directing means for accepting the input of direction for the fare adjustment;

25 fare adjustment means for adjusting the shortage of fare based on the data of amount of money when the fare shortage is known in the ticket checking process

by the first and second ticket checking means, the fare adjustment is directed by the fare adjustment directing means and the data of amount of money is obtained from at least one of the first and second  
5 processing means; and

third ticket checking means for executing the ticket checking process based on the result of the fare adjustment by the fare adjustment means.

10 23. An automatic ticket checking apparatus comprising:

a main body;

first receiving means provided to the main body for receiving using data from a first wireless ticket  
15 which is carried by a first user who is passing along a prescribed passage and recording the using data;

first judging means for judging a passing propriety of the first user based on the using data received by the first receiving means;

20 approving means for approving the passing of the first user when the passing is judged to be approved by the first judging means;

second receiving means provided to the main body for receiving using data from a second wireless ticket  
25 which is carried by a second user who is passing along a passage in the direction differing from the

prescribed passage and recording the using data;

second judging means for judging a passing property of the second user based on the using data received by the second receiving means;

5        third judging means for judging whether the second wireless ticket is the same as the first wireless ticket that is carried by the first user who was approved to pass by the approving means based on the using data received by the second receiving means;

10       prohibiting means for prohibiting the execution of judging the passing property of the second user by the second judging means when the second wireless ticket is judged to be the same as the first wireless ticket by the third judging means; and

15       control means for executing the judging a passing property of the second user by the second judging means when the second wireless ticket is judged differing from the first wireless ticket by the third judging means..

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24. An automatic ticket checking apparatus according to claim 23, further comprising:

means for receiving identification data inherent to each ticket recorded on the wireless ticket

25       therefrom; and

storage means for storing the identification data

of the received wireless tick t;

wherein the third judging means judges whether  
the second wireless ticket is the same as the first  
wireless ticket based on the identification data  
5 stored in the storage means.

25. An automatic ticket checking apparatus  
according to claim 24, further comprising:

erasing means for erasing the identification data  
10 from the storage means when a prescribed time passed  
after storing the identification data stored in the  
storage means.

26. An automatic ticket checking apparatus  
15 comprising:

a main body;

first wireless communication means provided to  
the main body for wireless communicating with a first  
wireless ticket that is carried by a first user who  
20 passes along a prescribed passage;

first judging means for judging a passing  
propriety of the first user based on the result of the  
wireless communication with the first wireless ticket  
by the first communication means;

25 approving means for approving the passing of the  
first user when the passing is judged to be approved

by the first judging means;

second wireless communication means provided to the main body for wireless communicating with a second wireless ticket that is carried by a second user who  
5 passes along the passage in the direction differing from the prescribed passage;

second judging means for judging whether the wireless ticket which is wireless communicated is the same as the first wireless ticket that is carried by  
10 the first user whose passing is approved by the approving means based on the wireless communication by the second wireless communication means;

prohibiting means for prohibiting the passing of a user to the passage in the direction differing from  
15 the prescribed passage when the second wireless ticket is judged to be the same as the first wireless ticket by the second judging means; and

third judging means for judging a passing propriety of the second user based on the result of  
20 the wireless communication with the second wireless ticket by the second wireless communication means when the second wireless ticket is not the same as the first wireless ticket by the second judging means.

25 27. An automatic ticket checking apparatus according to claim 26, further comprising:

canceling means for canceling the prohibition of passing by the prohibiting means;

passing propriety judging means for judging a passing propriety of a user based on the result of  
5 wireless communication which was made again with the second wireless ticket that was judged to be the same as the first wireless ticket by the second wireless communicating means after canceling the prohibition of passage by the canceling means; and

10 passing approving means for approving the passing of the second user when the passing is judged to be approved by the passing propriety judging means.

28. An automatic ticket checking apparatus  
15 according to claim 26, further comprising:

means for receiving identification data inherent to every ticket stored in the wireless ticket therefrom; and

storage means for storing the received  
20 identification data of the wireless ticket;

wherein the second judging means judges whether the wireless ticket with which communicated wirelessly is the first wireless ticket based on the identification data stored in the storage means.

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29. An automatic ticket checking apparatus

according to claim 28, further comprising:

erasing means for erasing an identification data from the storage means when a prescribed time passed after the identification data stored in the storage means was stored therein.

30. An automatic ticket checking apparatus according to claim 29, further comprising:

canceling means for canceling the prohibition of the passing of the prohibiting means when the identification data is erased by the erasing means;

passing propriety judging means for judging a passing propriety of a user based on the result of wireless communication that was made again with the second ticket judged to be the same as the first wireless ticket by the second wireless communication means after canceling by the canceling means; and

passing approving means for approving the passing of the second user when the passing is to be approved by the passing propriety judging means.

31. An automatic ticket checking apparatus according to claim 26, wherein

the second judging means further judges whether it is within a prescribed time from the wireless communication with the first wireless ticket by the

first wireless communication means; and

the prohibiting means prohibits a user carrying the wireless ticket to pass to the passage in the direction differing from the prescribed passage when  
5 judged to be within the prescribed time from the wireless communication with the first wireless ticket by the first wireless communication means.

32. An automatic ticket checking apparatus  
10 according to claim 26, further comprising:

canceling means for canceling the prohibition of the passing by the prohibiting means after a prescribed time; and

second approving means for approving the passing  
15 of a user preferentially to the cancellation of the passing prohibition by the canceling means when judged the passing is to be approval by the third judging means.

20 33. Automatic ticket checking apparatus comprising:

a main body;

first wireless communicating means provided to the main body for wireless communicating with a first  
25 wireless ticket carried by a first user who is passing along a prescribed passage;



first judging means for judging a passing propriety of the first user based on the result of wireless communication with the first wireless ticket by the first wireless communication means;

5        second wireless communicating means provided to the main body for wireless communicating with a second wireless ticket carried by a second user who is passing along the passage in the direction different from the prescribed passage;

10       approving means for approving the passing of the first user when the passing is judged to be approved by the first judging means;

storage means for storing data shown the first wireless ticket carried by the first user who is  
15       approved to pass by the approving means;

second judging means for judging whether the second wireless ticket with which wirelessly communicated is the same as the first wireless ticket stored in the storage means based on the wireless  
20       communication by the second wireless communication means;

prohibiting means for prohibiting a user to pass the passage in the direction differing from the prescribed passage when the wireless ticket with which  
25       wirelessly communicated by the second wireless communicating means is judged to be the first wireless

ticket by the second judging means; and

control means for prohibiting the storing of the  
storage means when the second wireless communicating  
means is not making the wireless communication with a  
5 wireless ticket.

34. An automatic ticket checking apparatus  
comprising:

a main body;

10 a first insert port provided at one side of the  
main body, into which a magnetic ticket is inserted by  
a user who is passing along a prescribed passage;

first insert prohibiting means for prohibiting  
the insert of the magnetic ticket into the first  
15 insert port;

first wireless communication means provided at  
one side of the main body likewise the first insert  
port for wireless communicating with a wireless ticket  
carried by a user passing along the prescribed  
20 passage;

second insert port provided at the other side of  
the main body, into which a magnetic ticket is  
inserted by a user who is passing along a passage  
differing from the prescribed passage;

25 second insert prohibiting means for prohibiting  
the insert of the magnetic ticket into the second

insert port;

second wireless communication means provided at the other side of the main body likewise the second insert port for wireless communicating with a wireless  
5 ticket carried by a user who is passing along the different passage;

approving means for approving the passing of a user who is carrying a magnetic ticket or a wireless ticket based on using data recorded on the magnetic  
10 ticket inserted into the first or second insert port or the wireless ticket with which wireless communicated by the first or second wireless communication means;

control means for prohibiting the insert of a  
15 magnetic ticket into the second insert port by driving the second insert prohibiting means and the wireless communication with a wireless ticket by the second wireless communication means when the magnetic ticket is inserted into the first insert port or the wireless  
20 ticket is wireless communicated by the second wireless communication means; and

cancellation means for canceling the prohibition of wireless communication of the second wireless communication means which was prohibited to make the  
25 wireless communication by the control means and after this cancellation, to cancel the prohibition of the

insert of a magnetic ticket into the second insert  
port by driving the second insert prohibiting means  
when the passing of a user is approved by the  
approving means based on the using data of the  
5 magnetic ticket inserted into the first insert port or  
a wireless ticket with the wireless communicated by  
the first wireless communication means.

35. A ticket checking method of an automatic  
10 ticket checking apparatus with a first insert port and  
first wireless communicating means provided at one  
side of a main body and a second insert port and a  
second communicating means at the other side of the  
main body, comprising the steps of:

15 prohibiting the insert of a magnetic ticket into  
the second insert port by a user who is passing along  
a passage differing from a prescribed passage and  
prohibiting the wireless communication with a wireless  
ticket carried by a user who is passing along the  
20 different passage by the second wireless communicating  
means when a magnetic ticket is inserted into the  
first insert port by a user who is passing along the  
prescribed passage or a wireless ticket carried by a  
user who is passing along the prescribed passage by  
25 the first wireless communication means;

reading using data recorded on the magnetic

ticket inserted into the first insert port or the wireless ticket with which wireless communicated by the first wireless communication means;

approving the passing of users who are carrying  
5 respective tickets based on the read using data;

canceling the prohibition of the wireless communication by the second wireless communicating means which was prohibited to make the wireless communication after approving the passing of a user  
10 carrying a ticket; and

canceling the prohibition of the insert of a magnetic ticket into the second insert port after canceling the wireless communication.

15 36. A radio communication equipment comprising:  
a main body;

first receiving means provided to the main body and receives using data from a first radio equipment which records using data and is carried by a first  
20 user who is passing along a prescribed passage;

first judging means for judging a passing of the first user based on the using data received by the first receiving means;

approving means for approving the passing of the  
25 first user when the passing is approval by the first judging means;

second receiving means for receiving using data  
from a second radio equipment which records the using  
data and is carried by a second user who is passing  
along the passage in the direction differing from the  
5 prescribed passage;

second judging means for judging a passing of the  
second user based on the using data received by the  
second receiving means;

third judging means for judging whether the  
10 second radio equipment is the same as the first radio  
equipment carried by the first user who is approved  
for the passing by the approving means based on the  
using data received by the second receiving means;

prohibiting means for prohibiting the execution  
15 of judging the passing propriety by the second judging  
means; and

control means for making the judgement of the  
passing propriety when the third judging means judged  
that the second radio equipment is not the same as the  
20 first radio equipment.